REMARKS/ARGUMENTS

The rejections presented in the Office action dated February 3, 2005 have been considered. Claims 1-16 are currently pending in the application, and claims 17-20 have been added. Reconsideration of the pending claims and allowance of the application in view of the present response is respectfully requested.

The Examiner requested a copy of a foreign search report listing the relevance of German Patent No. 2,111,343 in order for the IDS filed January 20, 2004 to comply with 37 CFR 1.98 (a)(3). A copy of the European Search Report referencing German Patent No. 2,111,343 is enclosed.

Claims 1-16 stand rejected under 35 U.S.C. §102(b) as being anticipated by German Patent No. DE 21 11 343, hereinafter the '343 reference.

Claim 1 has been amended for consistency between the first and second clauses; as shown, *e.g.*, in FIG. 1, in order for the three way valve means to control gas flow for applying pressure to the diaphragm for actuating the main valve, the diaphragm is in contact with (delimits) the second gas chamber 5. In this regard, Applicant submits that this amendment does not further limit the scope of claim 1 as originally filed, and further that this amendment is not made for reasons of patentability, in view of the cited '343 reference or otherwise.

Applicant respectfully traverses the Section 102(b) rejection because the rejection fails to show complete correspondence between teachings in the '343 reference and all of the claimed limitations. For example, the rejection's apparent suggestion that either diaphragm 12 or 15 operates the valve head 14 of the '343 reference is incorrect; the work diaphragm 12 operates the main valve 12, while the balance diaphragm 15 simply facilitates the connection of the linkage 13 through the partition wall 10 into the area/chamber 16. In this regard, the work diaphragm 12, which operates the '343 reference's valve head 14, does not delimit/separate the first and second gas chambers as in claims 1 (as amended) and 16 or the inlet and auxiliary chambers as in claim 10. In this regard, the subject matter in the '343 reference does not appear to correspond to the limitations in the independent claims (1, 10 and 16) of the presently-claimed invention.

In view of the above, the Section 102 rejection fails to provide correspondence between the '343 reference and all of the independent claims; in this regard, the rejection of

all of the dependent claims also fails. Notwithstanding the above, Applicant submits that the Section 102 rejection further fails to provide correspondence between the '343 reference and various other claimed limitations in the dependent claims, as discussed below.

Relative to claims 5 – 7, the rejection fails to mention limitations directed to the configuration of cross-sectional and/or flow resistance in the pipes connected to the three way valve and/or in the three-way valve. Furthermore, Applicant has reviewed the '343 reference and cannot ascertain any subject matter that corresponds to these claimed limitations. For example, it appears that the purpose of the '343 reference is directed to the closing of the valve head 14 against the passage 8 commensurate with the closing of the three-way valve 21 (which also corresponds to the closing of the main valve 3). This purpose appears contrary to any slowing or modulation of the closing (or opening) of the valve head 14, and thus the '343 reference appears to teach away from the limitations in these claims.

Regarding claim 11, the three-way valve 21 in the '343 reference does not couple an inlet chamber to an auxiliary chamber to produce a pressure differential across a diaphragm that controls a main valve. As discussed above, the work diaphragm 12 does not carry a pressure differential relative to an inlet and auxiliary chamber because it does not separate two such chambers. Furthermore, it appears that coupling the chamber/area 7 with the chamber/area 16 in the '343 reference would actually increase a pressure differential across the work diaphragm 12 (*i.e.*, coupling a relatively higher pressure to chamber/area 16), which correspondingly acts against the spring 17 to close the valve head 14. In this regard, the '343 reference appears to teach away from these claimed limitations.

Regarding claim 13, the gas pressure in the chamber/area 7 of the '343 reference does not reach the work diaphragm 12 when the three way control valve 21 closes a connection between an auxiliary chamber and an inlet chamber. On the contrary, it appears that such a closure in the context of the '343 reference would separate the chamber/area 7 from the work diaphragm 12 and thus teach away from the claimed invention. This follows from the above discussion regarding the positioning of the diaphragm 12 not being between the chamber/area 7 and the chamber/area 16. In this regard, the subject matter in the '343 reference does not appear to correspond to the limitations in claim 13.

The subject matter in the '343 reference also fails to correspond to limitations in new dependent claims 17-20, and further fails to suggest such limitations, for the reasons stated above in connection with the independent claims and for additional reasons as follows.

Referring to new claim 17, the '343 reference does not appear to include, or to teach or suggest, claimed limitations including a diaphragm coupled directly to a valve head; rather, the work diaphragm 12 of the '343 reference appears coupled to the valve head via linkage 13. Moreover, the '343 reference does not appear to teach or suggest a diaphragm that delimits first and second gas chambers and configured and arranged to pull a valve head away from a valve seat in response to pressure in the first gas chamber being less than the pressure in the second gas chamber.

Regarding new claim 18, the '343 reference appears not only to fail to disclose the claimed limitations, but also to teach away from limitations directed to a diaphragm configured and arranged to apply additional force to a spring means in a direction away from a main valve, in response to the pressure in the first gas chamber being reduced. That is, the work diaphragm 12 appears configured to apply additional force to the spring 17 when the chamber/area 16 has an increased pressure, and to apply less force to the spring 17 when the chamber/area 16 is reduced in pressure.

The '343 reference also appears to lack disclosure corresponding to, and teach away from, new claim 19. Generally, the spring 17 in the '343 reference applies pressure towards a valve seat (*e.g.*, opening 8) to move the valve head 14 away from the opening 8 and open the valve. This is contrary to the limitations in claim 19, wherein the spring applies force towards the valve seat to close the valve (*e.g.*, seat 2 of FIG. 1). Furthermore, as discussed above, the work diaphragm 12 does not separate an inlet chamber from an auxiliary chamber and is therefore not responsive (directly) to pressure in the inlet chamber.

Referring to new claim 20, the '343 reference does not appear to disclose limitations that correspond to opening the valve head 14 by deflecting in response to an increase in pressure on a side of the diaphragm adjacent the valve. As discussed above, the work diaphragm 12, which controls the valve head 14 in the '343 reference, does not have a side adjacent to the main valve because it does not separate first and second chambers (*i.e.*, chamber/area 7 and chamber/area 16). In the context of the '343 reference, the work

diaphragm 12 (presumably as well as the balance diaphragm 15) deflect away from the valve head 14 to close the valve, rather than to open the valve.

In view of the above, the Section 102 rejection fails to show correspondence between the cited '343 reference and the claimed invention. Therefore, Applicant requests that the rejection be removed.

Applicant respectfully submits that the pending claims are patentable over the cited prior art of record, and that the application is in condition for allowance. If the Examiner believes it necessary or otherwise helpful, the undersigned attorney of record may be contacted at (651) 686-6633 (x110) to discuss any issues related to this case.

Respectfully submitted,

Date: April 29, 2005 By 

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EP 38366	03016215.0-2301-

Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire
HONEYWELL B.V.

MITTEILUNG

Das Europäische Patentamt übermittelt beiliegend den europäischen Recherchenbericht zu der obengenannten europäischen Patentanmeldung.

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Die folgende Abbildung wird mit der Zusammenfassung veröffentlicht: 1

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Falls Artikel 10 der Gebührenordnung in Anwendung kommt, ergeht noch eine gesonderte Mitteilung der Eingangsstelle hinsichtlich der Rückerstattung der Recherchengebühr.

Europäisches Patentamt

EUROPÄISCHER RECHERCHENBERICHT

Nummer der Anmeldung
EP 03 01 6215

EINSCHLÄGIGE DOKUMENTE

Kategorie	Kennzeichnung des Dokuments mit Angabe, soweit erforderlich, der maßgeblichen Teile	Betrifft Anspruch	KLASSIFIKATION DER ANMELDUNG (Int.Cl.7)
X	US 3 741 710 A (NELSON L) 26. Juni 1973 (1973-06-26) * Abbildung * * Spalte 1, Zeile 53 - Spalte 2, Zeile 6 * * Spalte 2, Zeile 40 - Zeile 50 *	1,2,4-8	F23N1/00
X	DE 21 11 343 B (SCHULZ WILFRIED) 27. April 1972 (1972-04-27) * Abbildung 2 * * Spalte 2, Zeile 29 - Spalte 3, Zeile 16 * * Spalte 4, Zeile 18 - Zeile 32 *	1,3-8	

RECHERCHIERTE SACHGEBIETE (Int.Cl.7)

F23N

Der vorliegende Recherchenbericht wurde für alle Patentansprüche erstellt

Recherchenort	Abschlußdatum der Recherche	Prüfer
München	13. Oktober 2003	Coquau, S.

KATEGORIE DER GENANNTEN DOKUMENTE

X : von besonderer Bedeutung allein betrachtet
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ANHANG ZUM EUROPÄISCHEN RECHERCHENBERICHT ÜBER DIE EUROPÄISCHE PATENTANMELDUNG NR. EP 03 01 6215

In diesem Anhang sind die Mitglieder der Patentfamilien der im obengenannten europäischen Recherchenbericht angeführten Patentdokumente angegeben.
Die Angaben über die Familienmitglieder entsprechen dem Stand der Datei des Europäischen Patentamts am
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13-10-2003

Im Recherchenbericht angeführtes Patentdokument	Datum der Veröffentlichung	Mitglied(er) der Patentfamilie	Datum der Veröffentlichung
US 3741710 A	26-06-1973	KEINE	
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Für nähere Einzelheiten zu diesem Anhang : siehe Amtsblatt des Europäischen Patentamts, Nr.12/82